

NOAA Office of Oceanic and Atmospheric Research (OAR)
Earth System Research Laboratory (ESRL)
Physical Sciences Division (PSD)
Science Review
May 12–14, 2015
David Skaggs Research Center (DSRC), Room GC402
325 Broadway, Boulder, CO

AGENDA

Tuesday, May 12, 2015

PRELIMINARIES

- 07:00 Closed Breakfast – Homewood Suites, Boulder Room (OAR Assistant Administrator and Deputy Assistant Administrator with Review Panel)
- 07:30 Travel to ESRL (Shuttle provided for Review Panel – Other guests should carpool or self-drive)

WELCOMING TALKS (GC402)

- 08:15 Welcome, Introduction of Review Panel – Craig McLean (Assistant Administrator, NOAA/OAR)
- 08:30 NOAA and OAR Research Planning – Steven Fine (Deputy Assistant Administrator, NOAA OAR)
- 08:45 ESRL Overview – Alexander MacDonald (Senior Scientist, NOAA/OAR and Director, OAR/ESRL)
- 09:00 ESRL/PSD Overview – Robert Webb (Director, ESRL/PSD)
- 09:45 *Break and Light Refreshments with Demonstrations (15 min)*
- FACTS Data Access and Visualization – Donald Murray
 - The Climate Change Web Portal – James Scott
 - PSD Web-Based Visualization and Analysis Tools – Catherine Smith
- 10:00 PSD Strategic Priorities and Review Themes – Randall Dole (Senior Scientist, ESRL/PSD)

THEME 1: OBSERVING THE PHYSICAL SYSTEM (GC402)

- 10:15 Overview: Water Cycle – Allen White
- 10:25 CalWater 2015 – Ryan Spackman
- 10:40 Linking Aerosols and Precipitation – Jessie Creamean
- 10:55 Advances from CALWATER2/VAMOS/DYNAMO Campaigns – Christopher Fairall
- 11:10 Role of gap-filling radars to improve QPE in complex terrain – Robert Cifelli
- 11:25 Measurements of Soil Moisture and Ocean Wind Using GNSS Reflected Signals – Valery Zavorotny
- 11:40 Summary: Water Cycle – Allen White
- 11:45 Discussion

- 12:00 *Closed Lunch (Invitation Only) – Review Panel with Senior OAR HQ Leadership and PSD Director (60 min – GB124)*
- 01:00 Overview: Arctic – Taneil Uttal
- 01:10 Unraveling the Secrets of Arctic Clouds – Matthew Shupe
- 01:25 Understanding Atmospheric Forcing of Arctic Sea Ice Through Surface Energy Fluxes – Ola Persson
- 01:40 Arctic Observing: Addressing Current Limitations to Advance Scientific Understanding – Gijs de Boer
- 01:55 Summary: Arctic – Taneil Uttal
- 02:00 Discussion
- 02:15 *Break and Light Refreshments (15 min)*

THEME 2: UNDERSTANDING THE PHYSICAL SYSTEM (GC402)

- 02:30 Overview: Atmosphere and Ocean Dynamics – George Kiladis
- 02:40 Stable Boundary Layers – Andrey Grachev
- 02:55 Impacts of Atmospheric Tropical Waves on Weather and Climate in Observations versus Models – Juliana Dias
- 03:10 Tropical Forecasts and Predictability for Week 3 and Beyond – Matthew Newman
- 03:25 The Processes Underlying the Pacific Decadal Oscillation – Michael Alexander
- 03:40 Summary: Atmosphere and Ocean Dynamics – George Kiladis
- 03:45 Discussion
- 04:00 *Break and Light Refreshments (15 min)*
- 04:15 Overview: Explaining Extremes to Improve Predictions – Joe Barsugli
- 04:25 Understanding and Explaining Causes for Trends in Regional Precipitation – Martin Hoerling
- 04:40 Understanding and Explaining Causes of Weather and Climate Related Extreme Events – Judith Perlwitz
- 04:55 Linkages between ARs and Orographic Precipitation in the Western U.S. – Mimi Hughes
- 05:10 Current Effects of Human-Induced Climate Change on California Drought – Linyin Cheng
- 05:25 Summary: Explaining Extremes to Improve Predictions – Joe Barsugli
- 05:30 Discussion
- 05:45 *Adjourn*
- 06:00 *Review Panel Closed Session (1D–708)*
- 07:00 *Closed Dinner (Invitation Only) – Review Panel with OAR and PSD Senior Management*

Wednesday, May 13, 2015

PRELIMINARIES

07:00 Breakfast at Hotel

07:45 Travel to ESRL (Shuttle provided for Review Panel – Other guests carpool or self-drive)

THEME 3: MODELING THE PHYSICAL SYSTEM (GC402)

08:15 Overview: Improving Model Processes – Robert Cifelli

08:25 Radiative Forcing in CMIP6 – Robert Pincus

08:40 Evaluation of Microphysics Schemes for Numerical Weather Prediction – Jian-Wen Bao

08:55 Improving Weather and Climate Prediction Models Through the Super-Parameterization Approach – Stefan Tulich

09:10 High Resolution Modeling to Understand Flood Risk and Hail Impacts in Future Climates – Kelly Mahoney

09:25 Summary: Improving Model Processes – Robert Cifelli

09:30 Discussion

09:45 *Break and Light Refreshments with Demonstrations Repeated (15 min)*

10:00 Overview: Modeling the Climate System – Prashant Sardeshmukh

10:10 The Stochastic Framework for Understanding Climate – Cecile Penland

10:25 Challenges in modeling extremes – Prashant Sardeshmukh

10:40 Modeling the Arctic System – Amy Solomon

10:55 20th Century Reanalysis – Gilbert Compo

11:10 Summary: Modeling the Climate System – Prashant Sardeshmukh

11:15 Discussion

POSTER SESSION I – 11:30-12:15 (GC402 and ATRIUM)

Reviewers and Visitors Only

- Impacts of Extratropical-Tropical Interaction on Subseasonal North American Atmospheric Variability – John Albers
- Description and Capabilities of an Automated Objective Technique for Identifying Atmospheric Rivers – Darren Jackson
- Comparison of Simulated Soil Moisture in a Distributed Hydrological Model Using Direct Observations – Robert Zamora
- Development of Calibrated Probabilistic Forecast Products for Extreme Rainfall – Michael Scheurer
- Comparison of Global Precipitation Estimates Across a Range of Temporal and Spatial Scales – Maria Gehne

12:15 Closed Lunch1 (Invitation Only) – Review Panel with Invited PSD Staff (60 min – GB124)

Closed Lunch2 (Invitation Only) – Leadership Across NOAA with PSD Research Team Leads and PSD Management (60 min – GC402)

POSTER SESSION II – 01:15-2:00 (GC402 and ATRIUM)

Reviewers and Visitors Only

- Impact of Climate Variability and Change on Marine Ecosystems – Michael Alexander
- International Arctic Systems for Observing the Atmosphere – Sandra Starkweather
- Stakeholders Interactions to Improve the Use of Climate Information – Andrea Ray
- Using the Absence of Wind-Profiler Reflectivity to Study Stratocumulus-Topped Marine Boundary Layer Processes – Leslie Hartten
- XPIA: Development of Remote Sensing Techniques for Renewable Energy Applications – Katherine McCaffrey
- High resolution ensemble data assimilation for operational hurricane prediction - Henry Winterbottom

THEME 4: RESEARCH TO APPLICATIONS, OPERATIONS AND SERVICES (GC402)

02:15 Overview: Serving Stakeholders – Laura Bianco
02:25 Wind Forecast Improvement Project (WFIP and WFIP2) – James Wilczak
02:40 Improving Seasonal Forecasts to Help with Drought Planning in California – Klaus Wolter
02:55 Developing Data Tools and Products in Support of Research to Applications – Allen White
03:10 A "Sea to Summit to Sea" Approach to Improve Management of Water Resources – Lynn Johnson
03:25 Summary: Serving Stakeholders – Laura Bianco
03:30 Discussion

03:45 *Break and Light Refreshments with Subset of Posters Repeated (15 min)*

04:00 Overview: Serving NOAA – Thomas Hamill
04:10 Ensemble Data Assimilation – Jeffrey Whitaker
04:25 Model Uncertainty Parameterization in Ensembles – Philip Pegion
04:40 Ensemble Reforecasts and Post-Processing – Thomas Hamill
04:55 Air–Sea Flux Products – Christopher Fairall
05:10 Summary: Serving NOAA – Thomas Hamill
05:25 Discussion

05:30 *Adjourn*

05:45 *Review Panel Closed Session (1D708)*

05:45 *NOAA Line Office, OAR and PSD Senior Management Closed Session (3B207)*

07:00 *Dinner – On Your Own (Optional Reservation for 20 at the Boulder Dushanbe Tea House)*

Thursday, May 14, 2015

PRELIMINARIES

07:00 Breakfast

07:45 Travel to ESRL (Shuttle provided for Review Panel if needed – other guests carpool or self-drive)

STAKEHOLDER SESSIONS

08:00 Preparation for Concurrent Closed Sessions with Review Panel

Session 1 (1D708)

08:15 Gary Eilerts (Program Manager, Famine Early Warning Systems Network, USAID) – DC

08:35 Wayne Higgins (Director, Climate Program Office, NOAA Research) – CO

08:55 Levi Brekke (Chief, Research and Development, U.S. Bureau of Reclamation) – CO

09:15 John Cortinas (Director, Office of Weather and Air Quality, NOAA Research) – CO

09:35 Michael Anderson (State Climatologist, California Department of Water Resources) – CA

Session 2 (1D403)

08:15 Hendrik Tolman (Director, Environmental Modeling Center, NOAA National Weather Service) – DC

08:35 Joel Cline (Program Manager, Wind and Water Power Program, U.S. Department of Energy) – DC

08:55 Von Walden (Professor, Department of Civil Engineering, Washington State University) – WA

09:15 Tony Willardson (Executive Director, Western States Water Council) – UT

09:35 Roger Pulwarty (Director, National Integrated Drought Information Service) – CO

REVIEW PANEL SUMMARY, WRAP-UP AND DISCUSSION (1D708)

10:00 OAR and PSD Senior Management with Review Panel

REVIEW PANEL CLOSED SESSION (1D708)

10:30 Discussion and Report Coordination

REVIEW PANEL PRELIMINARY REPORT-OUT (1D708)

12:00 OAR and PSD Senior Management with Review Panel

01:00 *Adjourn*